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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,573	10/03/2003	Woo Jin Lee	5882P050	2464
8791	7590	07/13/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN			DOAN, JENNIFER	
12400 WILSHIRE BOULEVARD			ART UNIT	
SEVENTH FLOOR			PAPER NUMBER	
LOS ANGELES, CA 90025-1030			2874	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/678,573

Applicant(s)

LEE ET AL.

Examiner

Jennifer Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 8 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 100303 & 091704.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The prior art documents submitted by applicant in the Information Disclosure Statements filed on 10/03/2003 and 09/17/2004, have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

3. The drawings, filed on 10/03/2003, are accepted.

### ***Specification***

4. Claim 10 is objected to because of the following informalities:

Claim 10, line 7 is missing a period at the end of the claim.

Appropriate correction is required.

Applicants' cooperation is requested in correcting any other errors of which applicants may become aware in the specification.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 6 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (Korean Article, T74/Photonics Conference translated by translation branch of USPTO).

The applied reference has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

With respect to claim 1, Lee et al. (figure 4) disclose a method for manufacturing an optical waveguide using a laser direct writing method, comprising coating clad

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material on a substrate; coating photo-sensitive polymer on the clad material as a core layer (page 1, the third paragraph, lines 2-4); and forming the optical waveguide using a laser beam having Gaussian distribution (page 1, the third paragraph, lines 4-5), wherein the step of forming the optical waveguide includes the step of overlapping at least two laser beams (page 3, the first paragraph, line 5).

With respect to claim 2, Lee et al. disclose the method, wherein each of the at least two laser beams has difference each other in at least one of the beam's size, the beam's intensity and writing speed (page 2, the first paragraph, lines 1-2).

With respect to claim 3, Lee et al. disclose the method, wherein the refractive index profile of the optical waveguide is asymmetrical (page 3, the first paragraph, lines 1-2).

With respect to claim 4, Lee et al. disclose the method, wherein the optical waveguide is formed with a bending structure (page 1, the first paragraph, lines 10-11).

With respect to claim 6, Lee et al. disclose the method, wherein the number of the laser beam is two, the size and length thereof is few  $\mu\text{m}$  (page 1, the second paragraph, lines 3-4).

With respect to claim 8, Lee et al. disclose an optical waveguide formed by a laser direct writing method, comprising a substrate (figure 2); clad material coated on the substrate; and photo-sensitive polymer coated on the clad material as a core layer (page 1, the third paragraph, lines 2-4), wherein the refractive index profile of the core layer has a structure of overlapping at least two laser beams having Gaussian

distribution, spaced a predetermined distance apart each other (page 1, the third paragraph, lines 4-5 and page 3, the first paragraph, line 5).

***Allowable Subject Matter***

7. Claims 5, 7, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or reasonably suggest the method and apparatus, wherein in the overlapped beam of the bending structure, the refractive index of the beam in the outside is larger than that of the beam positioned in the inside as recited in claims 5 and 9; further forming a first bending-shaped optical waveguide using a first laser beam and forming a second bending-shaped optical waveguide having two portions using a second laser beam, wherein the each portion of the second bending-shaped optical waveguides are formed on sides of the first optical waveguides, crossed each other with respect to the center of the bending curve of the first optical waveguide as recited in claims 7 and 10.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Charters et al. (U.S. Patent 6,577,799) disclose a laser direct writing of planar light wave circuits. And Livesay et al. (U.S. 2003/0038251) disclose a

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method and apparatus for forming optical material in which the electron beam (not laser beam) is overlapping.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Doan

Patent examiner

July 7, 2005